WE CLAIM:

1. A laser comprising:

an optical cavity resonator having first and second reflectors and an active region interposed between said reflectors; characterized in that

the second reflector comprises a resonant optical reflector (ROR) that includes an optical gain medium.

2. The laser of claim 1, wherein the ROR reflects radiation back into the optical cavity in response to being pumped.

3. The laser of claim 2, wherein the ROR is characterized by having cavity losses that attenuate incident radiation in response to not being pumped.

4. The laser of claim 1, wherein the second reflector further comprises a second ROR that includes an optical gain medium; and

the first and second RORs resonantly reflect at different wavelengths.

5. The laser of claim 1, further comprising:

a monolithic structure, the reflectors and optical gain medium belonging to the monolithic structure.

6. The laser of claim 2, wherein the optical gain medium of the ROR is pumpable by passing an electric current therethrough.

7. The laser of claim 1, further comprising

first and second optical waveguides that are weakly coupled to one another,

the active region being disposed in the first waveguide, and the ROR gain medium being disposed in the second waveguide.

8. A tunable semiconductor laser comprising

an optical cavity resonator having first and second reflectors and an active region interposed between said reflectors; characterized in that

the second reflector comprises a multiplicity of resonant optical reflectors (RORs) each of which includes an optical gain medium and each of which is resonant at a different wavelength,

a first optical waveguide that includes the active region,

a second optical waveguide that includes the ROR gain media, the second waveguide being weakly coupled to the first waveguide, and

means for pumping selected ones of the ROR gain media so that said laser emits radiation at one or more wavelengths corresponding to the selected ROR gain media.

9. The laser of claim 8, wherein the pumping means includes a multiplicity of segmented, electrically isolated electrodes overlaying the second waveguide for applying voltage bias and pumping current to the selected RORs.

10. A WDM system comprising

a transmitter,

a receiver,

a transmission medium coupling the transmitter to the receiver, characterized in that the transmitter includes a laser according to claim 8.

11. A method of tuning a laser, the laser including an optical cavity resonator formed by a first reflector and a resonant optical reflector (ROR) with an active region disposed in the resonator and a gain medium disposed in the ROR, comprising the steps of:

(a) pumping the active region to produce stimulated optical emission; and

(b) pumping the gain region to increase the amount of radiation that the ROR reflects back into the resonator.